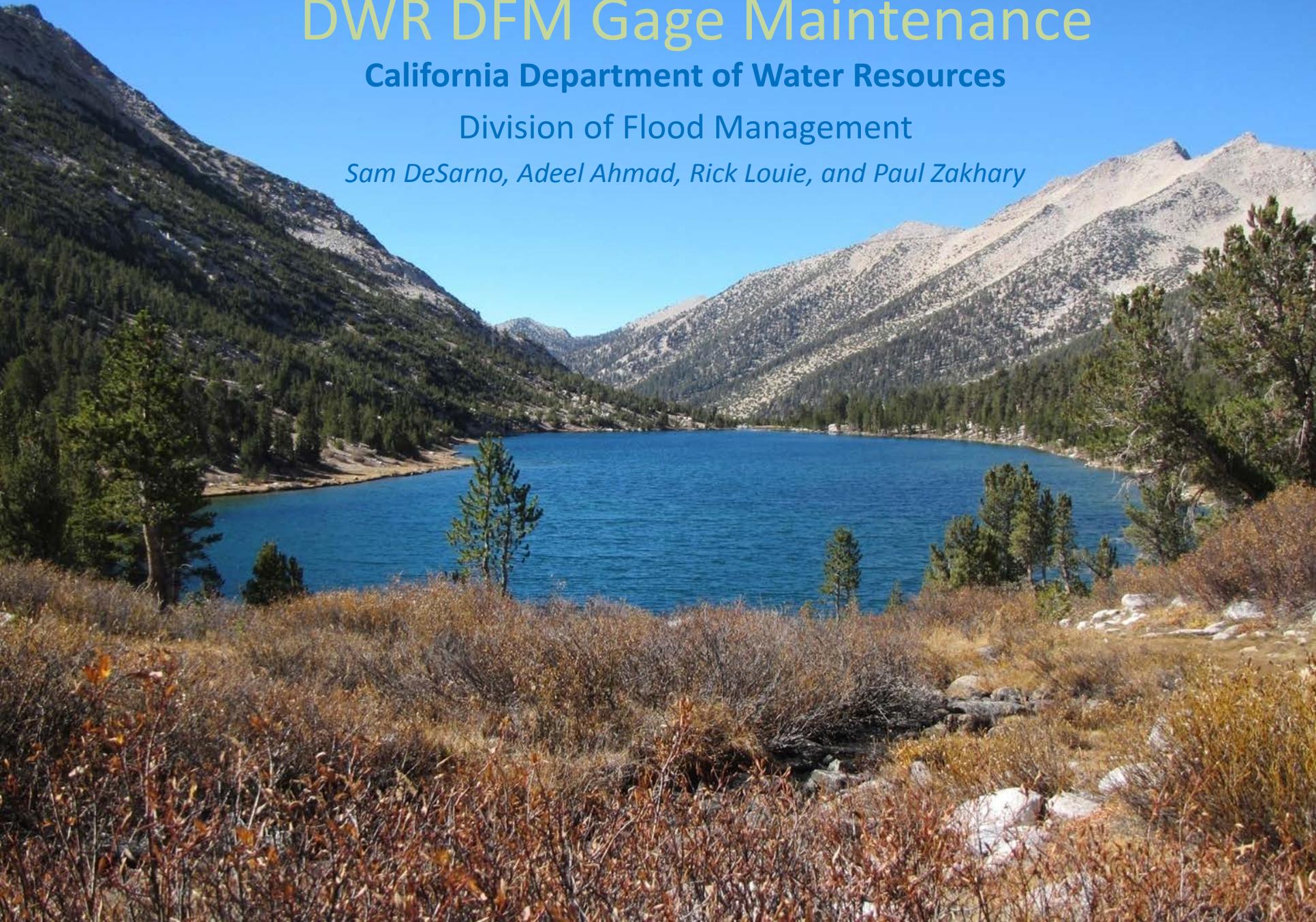


DWR DFM Gage Maintenance

California Department of Water Resources

Division of Flood Management

Sam DeSarno, Adeel Ahmad, Rick Louie, and Paul Zakhary



DWR DFM Gage Maintenance

California Department of Water Resources

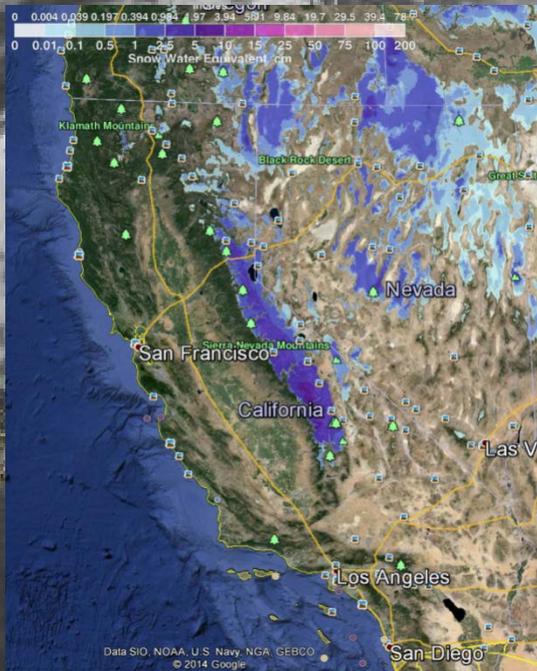
Division of Flood Management

Sam DeSarno, Adeel Ahmad, Rick Louie, and Paul Zakhary

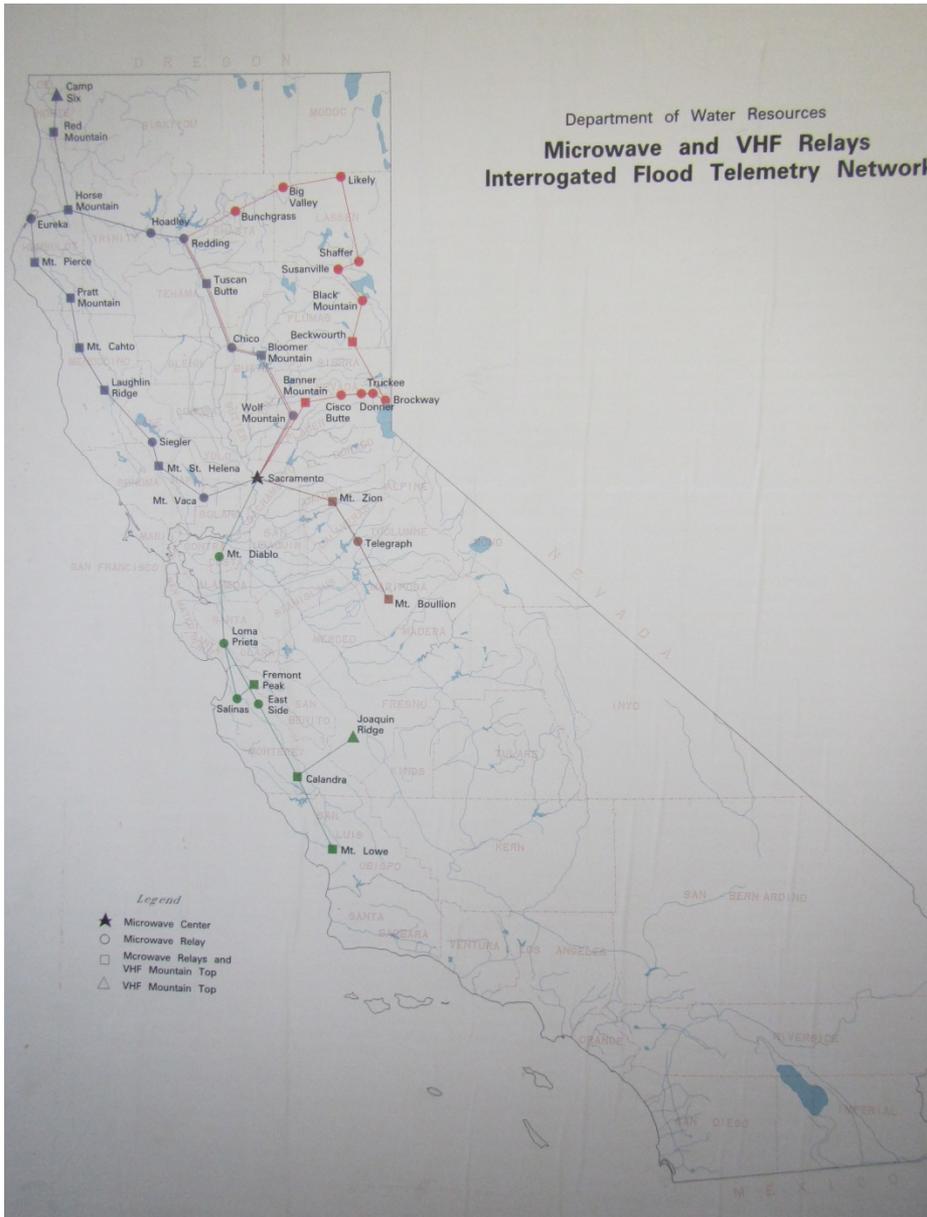
Today's topics

- Gage networks
- Gage Maintenance
- Gage access/egress

DWR DFM Gage Networks



Old Network



NWS/DWR/CA

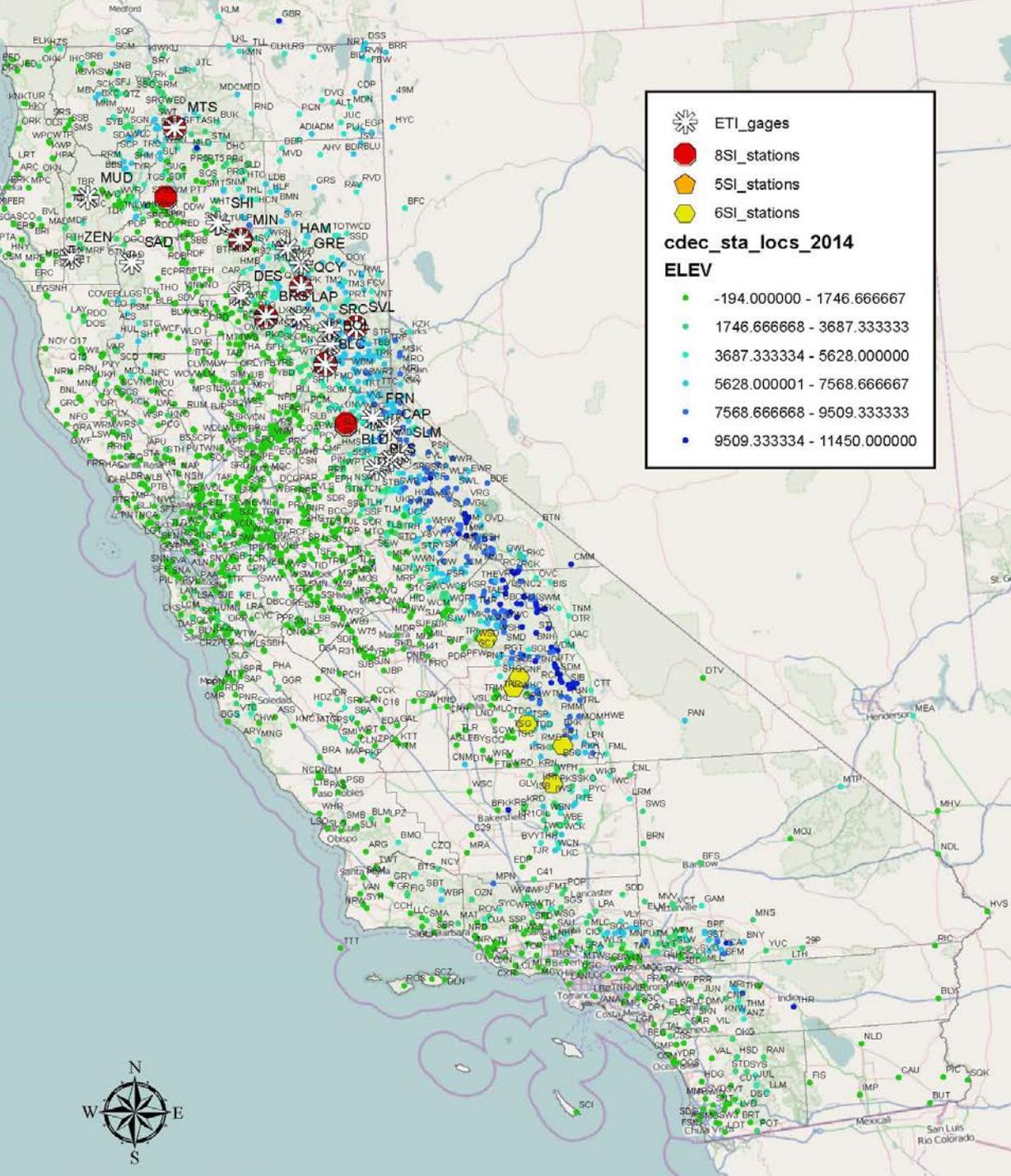
Hydro-Meteorologic Telemetry

- based on the Public Safety Microwave System (PSMS)
- 1st PSMS loop bet LA and Sacramento, 1957
- Two way microwave backbone
- VHF radio between sites and backbone base stations
- Each base station communicated with up to 99 stations

Current Network

CDEC station locations
<http://cdec.water.ca.gov>

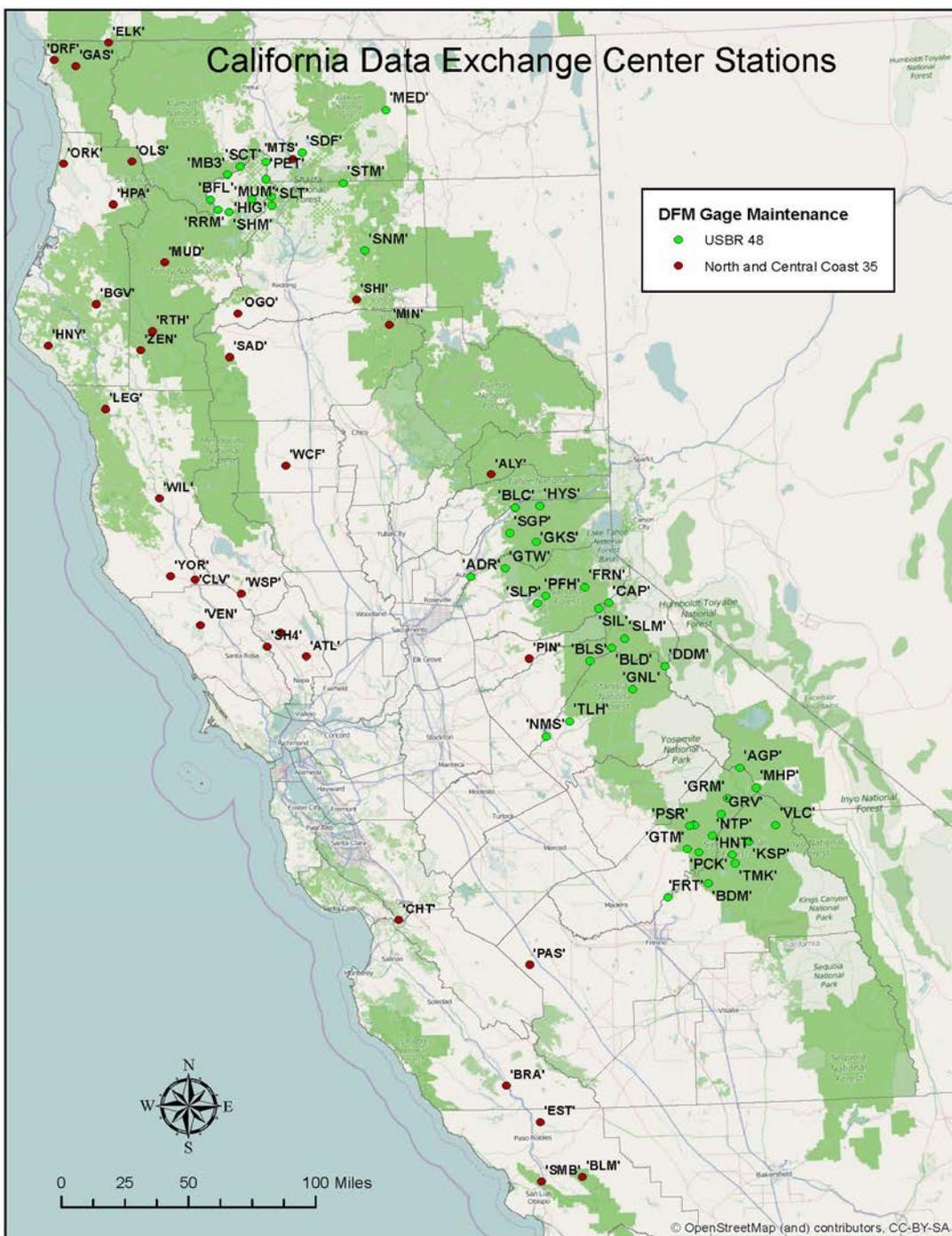
- 2467 CDEC site locations
- Precipitation indexes
- ETI gage replacements





- 48 USBR sites
- 27 USGS sites
- 19 Army Corps sites
- 65 Snow Survey sites
- 20 F-CO sites...
- IRWM Regional Offices (48 sites)
 - NRO 22
 - NCRO 20
 - SCRO 6

California Data Exchange Center Stations

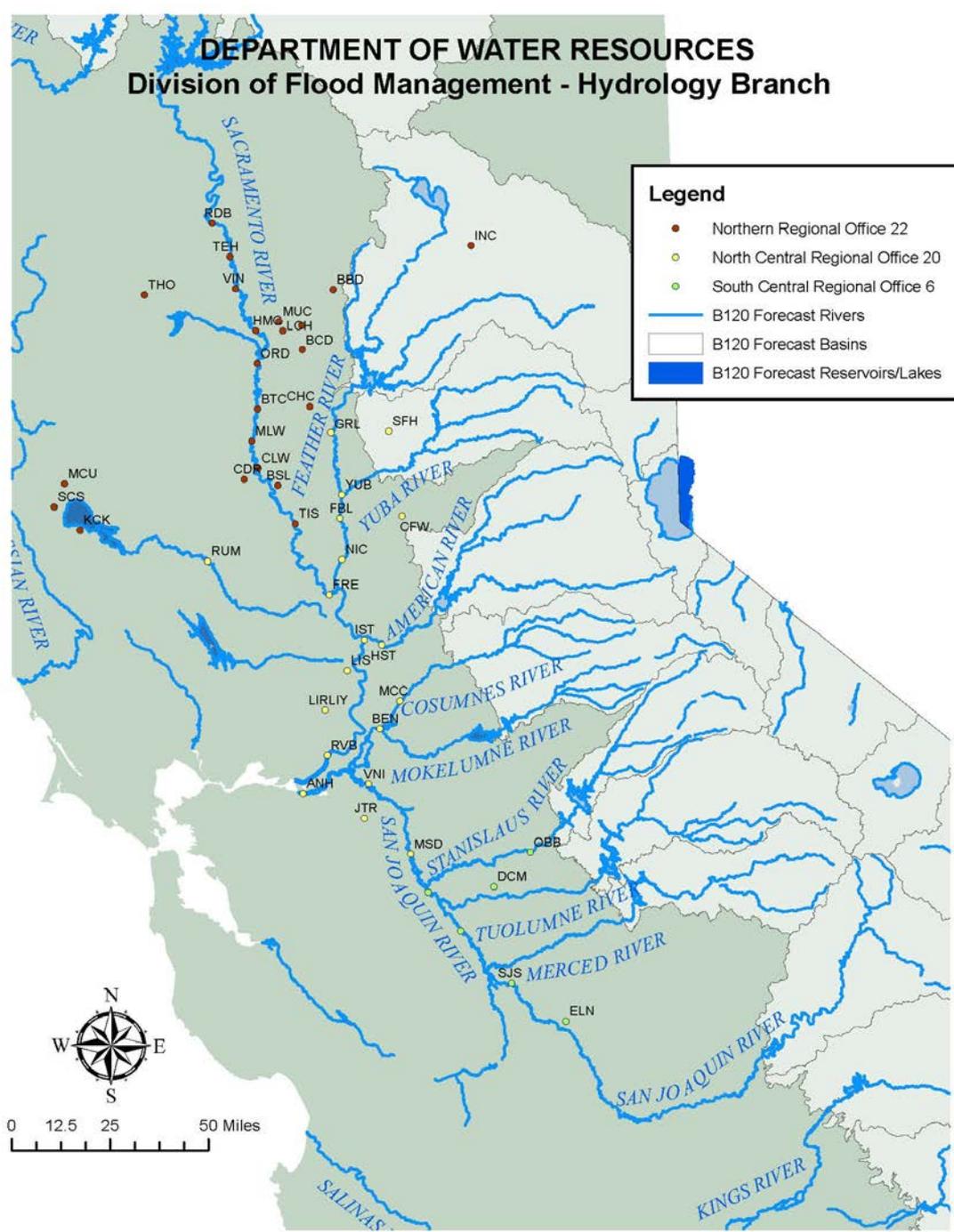


2014 Field Work

DWR Gage Maintenance

- 48 USBR HydroMet sites
- 35 DFM precipitation sites

DEPARTMENT OF WATER RESOURCES
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Legend

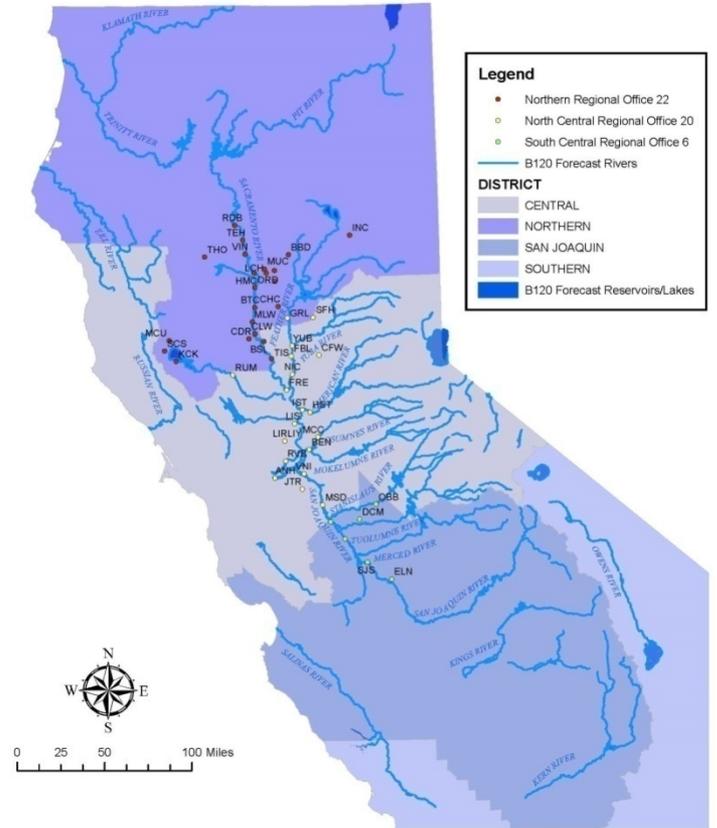
- Northern Regional Office 22
- North Central Regional Office 20
- South Central Regional Office 6
- B120 Forecast Rivers
- B120 Forecast Basins
- B120 Forecast Reservoirs/Lakes

Field Work

IRWM Regional Offices

- NRO 22
- NCRO 20
- SCRO 6

DEPARTMENT OF WATER RESOURCES
Division of Flood Management - Hydrology Branch



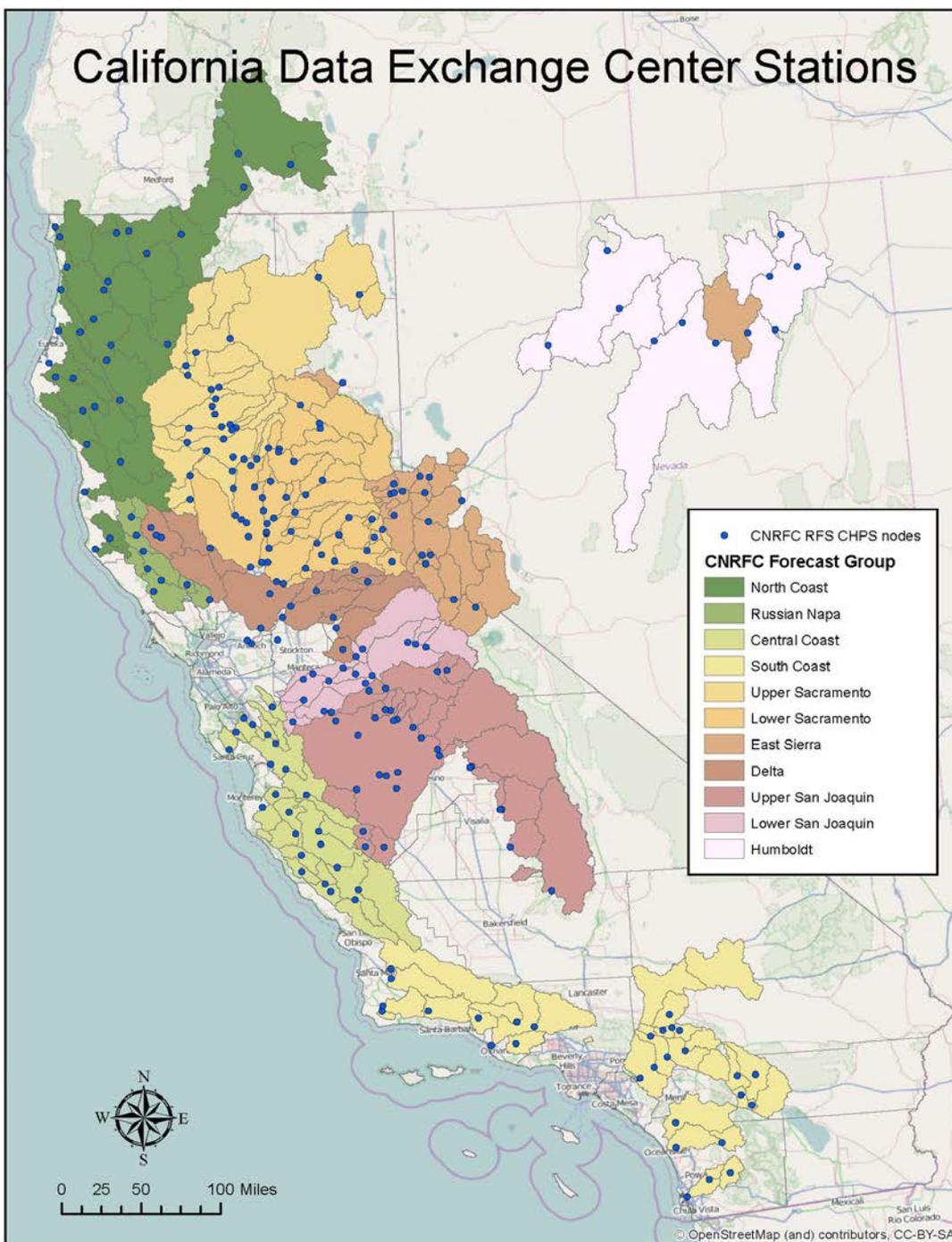
Legend

- Northern Regional Office 22
- North Central Regional Office 20
- South Central Regional Office 6
- B120 Forecast Rivers

DISTRICT

- CENTRAL
- NORTHERN
- SAN JOAQUIN
- SOUTHERN
- B120 Forecast Reservoirs/Lakes

California Data Exchange Center Stations



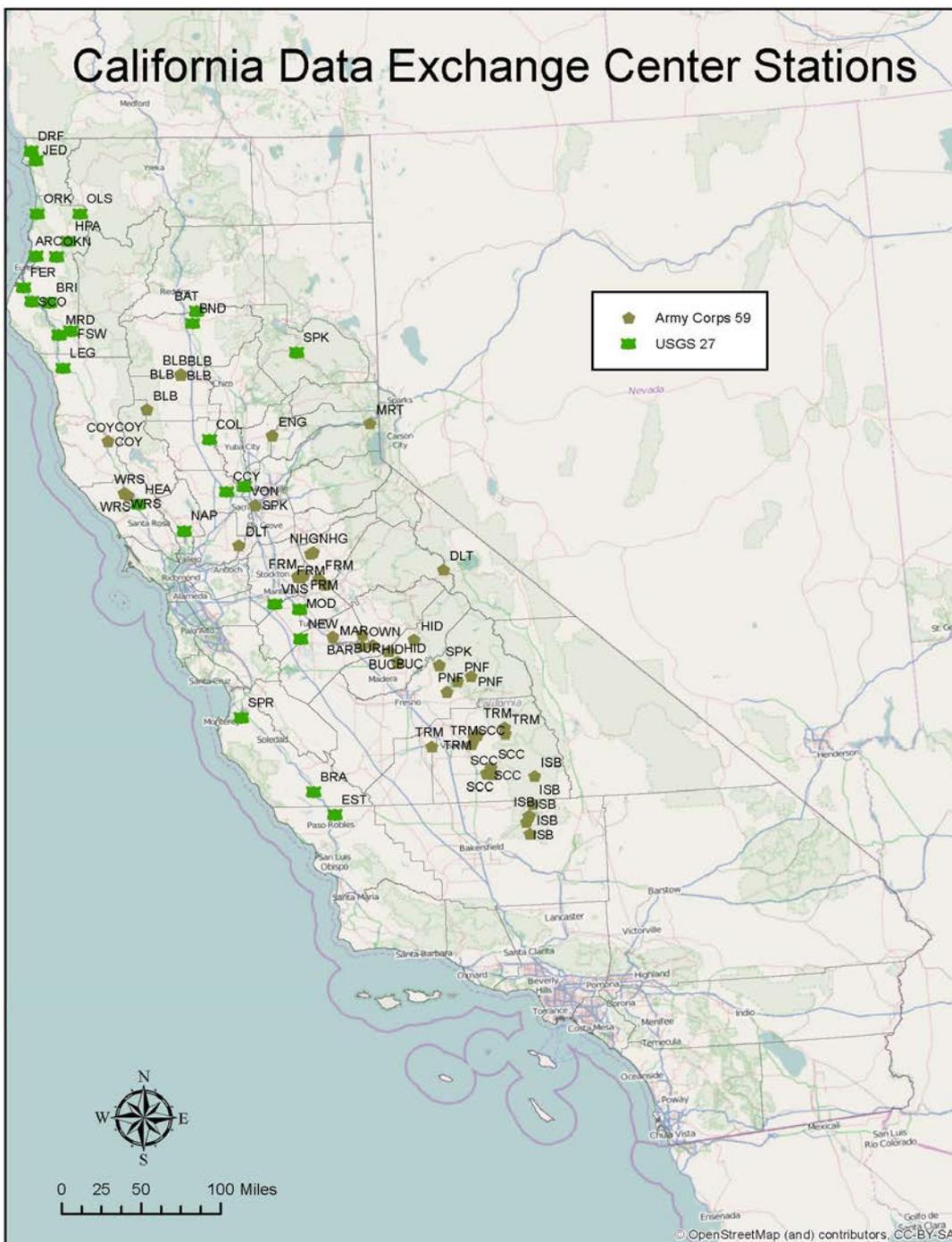
What Field Work Supports

Flood Forecast Network

- 170 CNRFC flow node points

<http://www.cnrfc.noaa.gov/>

California Data Exchange Center Stations

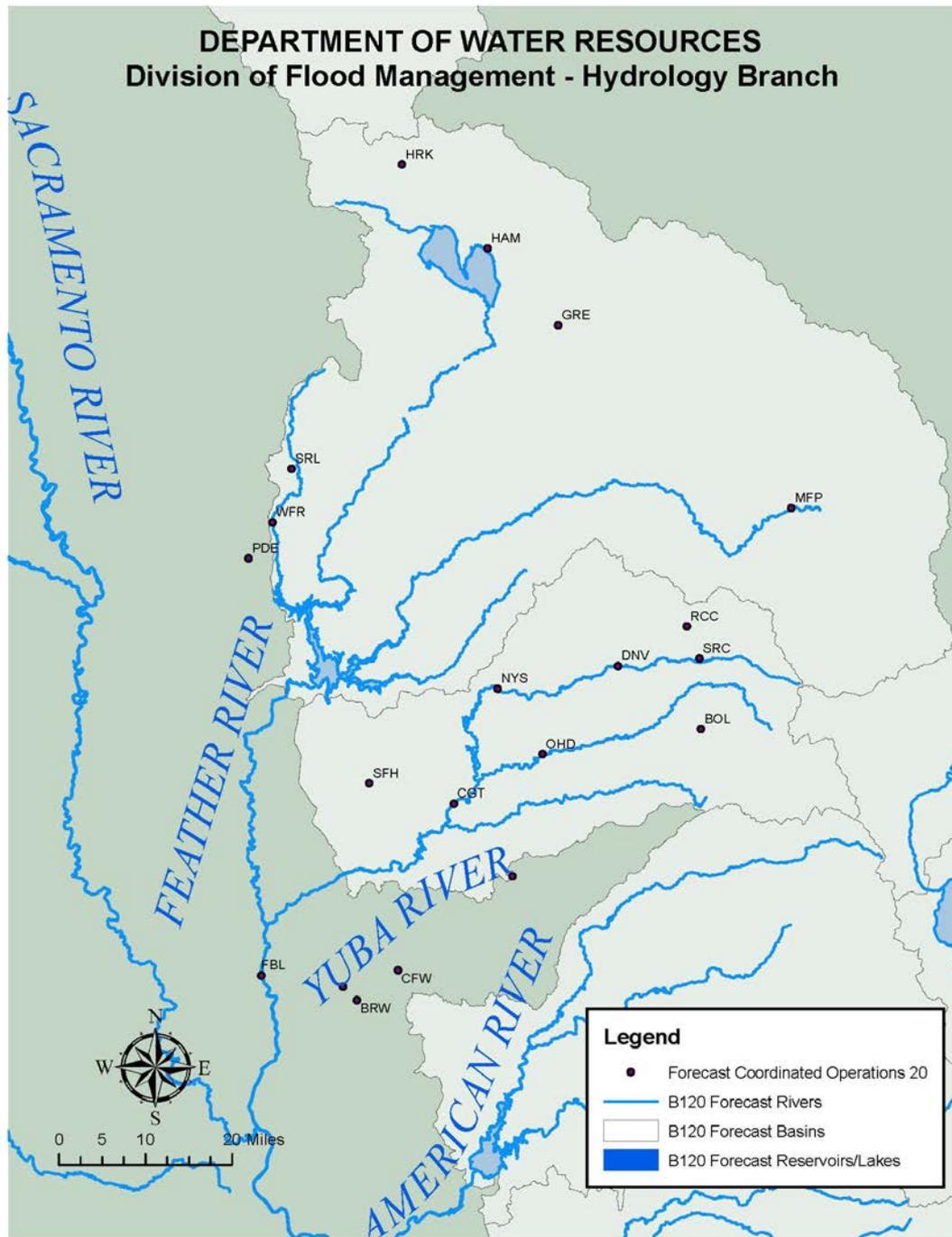


Cooperating Agencies

DWR Gage Maintenance Coordination

- 27 USGS sites
- 19 Army Corps sites

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F-CO Sites

DWR Gage Maintenance
20 sites worked on

- Shared maintenance with Oroville Field Division
- More to come for other basins...

Gage Maintenance

DWR/DFM staff are responsible for many different types of sites and equipment



Streamgage/precip, precip/temp, rain/snow, snow water equivalent, wilderness installations, etc. which is which?

Updating the Outdated



**“THE SECRET OF CHANGE IS TO
FOCUS ALL OF YOUR ENERGY, NOT
ON FIGHTING THE OLD, BUT ON
BUILDING THE NEW.”**

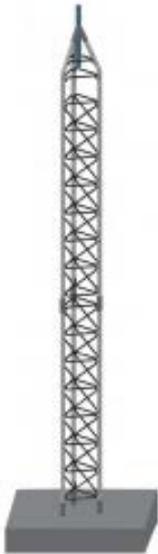
-Socrates

MB3 – Middle Boulder 3

What is being updated?

Towers

- *Replace* threaded 2" pipe monopole setup
- Replacing with 20 to 30 feet self-supported tower



Enclosures:

- *Replace* old and weathered fiberglass enclosures
- Replacing with brand new Stainless steel enclosures
- Stainless steel back-panel

Pressure Transducer - Venting Setup

- *Replace* buried pipe, enclosed with the pressure transducer, setup
- Replacing with a new vinyl tubing seal – vented into the enclosure
- Results pending...!



Being Updated Continued...

Old Middle Section



Old Tipper



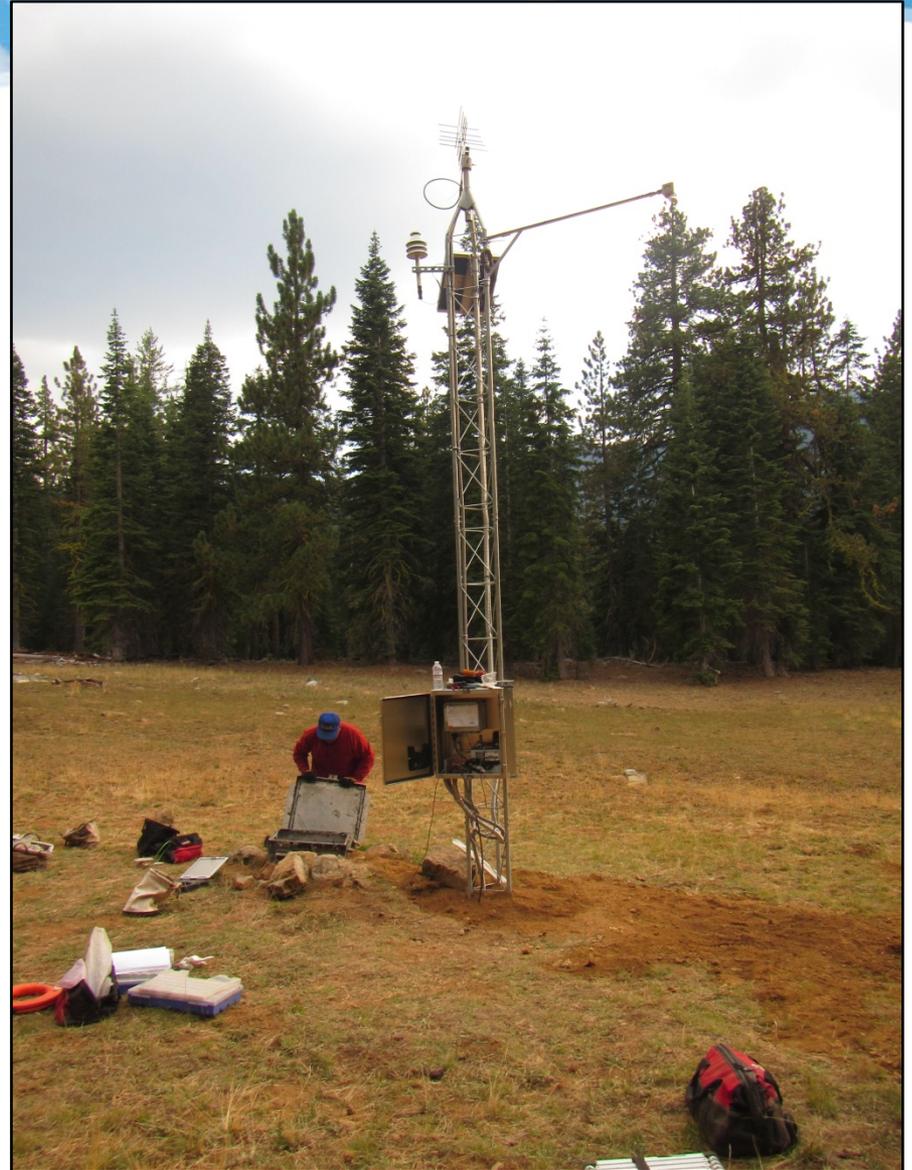
New Middle Section



New Tipper



Site Example I



MB3 – Middle Boulder 3

Site Example II



BLC – Blue Canyon

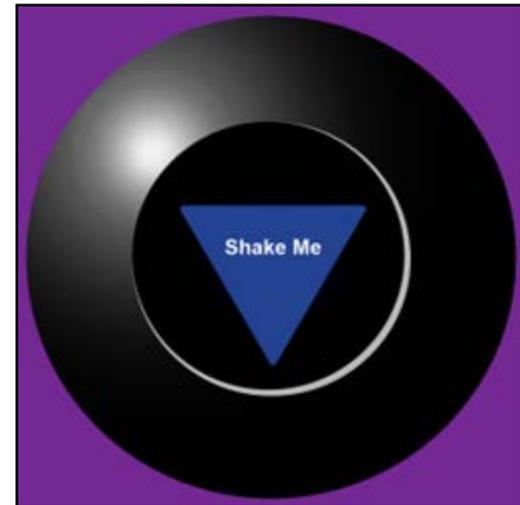
What Else?

Near Future:

- DCP's – Data Collection Platform
- Sensors – new models, additional measurements

Further out:

- Radios
- Antennas



BLD, Bloods Creek, Stanislaus Basin



ETI

<http://www.etisensors.com/ETIcompany.htm>

Snow zone rain and snow precipitation measurement

